

What is claimed is:

1. A method of installing software on a storage device controlling apparatus which includes:

at least one channel controller having a circuit board
5 on which are formed a file access processing section receiving requests to input and output data in files as units from an information processing apparatus via a first network and an I/O processor outputting I/O requests corresponding to said requests to input and output data to a storage device;

10 at least one disk controller executing input and output of data into and from said storage device in response to the I/O requests sent from said I/O processor; and

a second network coupling said channel controller and said disk controller so as to be able to communicate with each
15 other, said method comprising the step of:

writing software for enabling said file access processing section to function, into said storage device by communicating with said channel controller via said second network.

20

2. A method of installing software on a storage device controlling apparatus which includes:

at least one channel controller having a circuit board
on which are formed a file access processing section receiving
25 requests to input and output data in files as units from an information processing apparatus via a first network and an I/O processor outputting I/O requests corresponding to said requests to input and output data to a storage device I/O;

at least one disk controller executing input and output of data into and from said storage device in response to the I/O requests sent from said I/O processor; and

a second network coupling said channel controller and said disk controller so as to be able to communicate with each other, said method comprising the step of:

writing a piece of firmware into each of nonvolatile memories provided for said channel controller and said disk controller via said second network.

10

3. A method of installing software on a storage device controlling apparatus according to claim 1, wherein a storage area for storing the software for enabling said file access processing section of said channel controller to function is assigned in said storage device.

15

4. A method of installing software on a storage device controlling apparatus according to claim 1, wherein said software for enabling said file access processing section to function is software for implementing a function of an operating system that provides a function of a file system.

20

5. A method of installing software on a storage device controlling apparatus according to claim 1, wherein said second network is coupled to a computer, and said software is written from said computer into said storage device by said channel controller communicating with said computer.

25

6. A method of installing software on a storage device controlling apparatus according to claim 1, wherein said second network is coupled to a computer, said method further comprising the steps of:

5 storing, by said computer, information for identifying at least one specific channel controller with which said computer is to perform said communication from among said at least one channel controller; and

writing said software from said computer into said
10 storage device by said computer communicating with said at least one specific channel controller about which said information is stored in said computer.

7. A method of installing software on a storage device
15 controlling apparatus according to claim 2, wherein said pieces of firmware are sent from a computer coupled to said second network to said channel controller and said disk controller.

20 8. A method of installing software on a storage device controlling apparatus according to claim 2, wherein said second network is coupled to a computer, said method further comprising the steps of:

storing, by said computer, information for identifying
25 at least one specific channel controller and at least one specific disk controller with which said computer is to perform said communication from among said at least one channel controller and said at least one disk controller; and

writing said pieces of firmware from said computer into said at least one specific channel controller and said at least one specific disk controller by said computer communicating with said specific channel controller and said
5 specific disk controller about which said information is stored in said computer.

9. A method of controlling a storage device controlling apparatus which comprises a plurality of channel controllers
10 each having a circuit board on which are formed a file access processing section receiving requests to input and output data in files as units from an information processing apparatus via a network and an I/O processor outputting I/O requests corresponding to said requests to input and output data to a
15 storage device, said plurality of channel controllers being divided into groups for performing fail-over, said method comprising the steps of:

examining whether all circuit boards in each said group in said storage device controlling apparatus are connected to
20 a same system of power supply; and

outputting a warning to a user interface when all the circuit boards in each said group are connected to the same system of power supply.

25 10. A storage device controlling apparatus which comprises a plurality of channel controllers each having a circuit board on which are formed a file access processing section receiving requests to input and output data in files

as units from an information processing apparatus via a network and an I/O processor outputting I/O requests corresponding to said requests to input and output data to a storage device, said plurality of channel controllers being
5 divided into groups for performing fail-over, said apparatus further comprising:

a section which examines whether all circuit boards in each said group in said storage device controlling apparatus are connected to a same system of power supply; and

10 a section which outputs a warning to a user interface when all the circuit boards in said group are connected to the same system of power supply.